

# (12) United States Patent

## **Farrish**

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# (54) HANG ON GLASS UPFLOW ALGAE SCRUBBER EMBODIMENTS

Applicant: Bryan H. Farrish, Santa Monica, CA

(72)Inventor: Bryan H. Farrish, Santa Monica, CA

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119/260, 261 See application file for complete search history.

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Primary Examiner — Fred Prince (74) Attorney, Agent, or Firm — Blakely Sokoloff Taylor & Zafman LLP

#### (57)ABSTRACT

An apparatus for aquarium water filtration comprising a macroalgal growth means defining a first macroalgal attachment material and a first bubbling means; and a containment means including a housing defining a first water inlet and a gas outlet; a docking means defining a first docking surface configured to complement a shape of an aquarium wall; the first docking surface defining a first illumination port to enable illumination to pass through the illumination port to illuminate the macroalgal attachment material; and a first coupling means to secure the macroalgal growth means to the containment means such that a first portion of gas bubbles emitted by the macroalgal growth means is confined to the housing.

### 20 Claims, 17 Drawing Sheets

